REMARKS

This communication is a response to the aforementioned non-final Office Action dated July 14, 2010. Claims 1, 2, 11, 19 and 24 are amended. Claims 3, 4, 12-14, 25 and 26 are not amended and remain in the application. Thus, claims 1-4, 11-14, 19 and 24-26 are pending in the application. Claims 1, 11 and 19 are independent.

Reconsideration of the application and withdrawal of the rejections of the claims are respectfully requested in view of the foregoing amendments and the following remarks.

I. Rejections Under 35 U.S.C. § 101

Claims 1-4 are rejected under 35 U.S.C. 101 as allegedly being directed to non-statutory subject matter. In response to this rejection, claim 1 has been amended to recite a non-transitory computer readable-recording medium having a computer program recorded thereon, in view of the Office's evolving interpretation of patentable subject matter under 35 U.S.C. § 101.

By reciting the computer-readable recording medium as being non-transitory, the Office's concern that the recording medium might constitute a "signal" is sufficiently addressed. Accordingly, Applicant respectfully requests that the rejections of claims 1-4 under 35 U.S.C. § 101 be withdrawn.

II. Rejections Under 35 U.S.C. § 103(a)

A. Claims 1-3, 11-13, 19 and 24-25 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Geiger et al. (WO 00/72149, hereinafter "Geiger") in view of Radatti (U.S. Publication No. 2003/0140049) and further in view of Motoyama et al. (U.S. Patent No. 7,743,133, hereinafter "Motoyama").

Without acquiescing to this rejection, independent claims 1, 11 and 19 have each been amended to emphasize additional distinguishing features over the applied references. Applicant respectfully submits that the claimed invention is patentable over the applied references for at least the following reasons.

The purported combination of Geiger, Radatti and Motoyama cannot support the rejection of the claimed invention under 35 U.S.C. § 103(a), because these

references, either individually or in combination, do not establish that all the elements recited in the claimed invention were known in the prior art. See *KSR International Co. v. Teleflex, Inc.*, 82 USPQ2d 1385, 1395 (U.S. 2007); MPEP 2143.02.

An exemplary embodiment of the present disclosure provides a method and computer program for causing a controlling apparatus intended to control an image forming apparatus, as well as a controlling apparatus for controlling an image forming apparatus. An exemplary configuration of the controlling apparatus is illustrated in Figure 1, in which a computer 200 is limited to controlling an image forming apparatus such as copying machine 300 (see paragraph [0023] on page 7 of the specification).

As illustrated in Figure 3, a hard disk 204 of the computer 200 includes a database 240 in which a file list 241 and running program status list 242 are stored. The file list 241 is a list of all files, such as programs, which are required to exist in a specific storage area of a logical drive of hard disk 204 for controlling a multifunctional peripheral (MFP) 100 that includes the computer 200 and copying/scanning machine 300 (see, e.g., paragraph [0039]). The running program status list 242 is a list of all programs running on the MFP 100 for controlling the MFP 100. As described in paragraph [0041] on page 11, the file list 241 and running program status list 232 are set up prior to factory shipment of MFP 100 and the controlling apparatus, and are stored in the hard disk 204 of the controlling apparatus. Accordingly, the file list 241 is a preset list of programs and files that are authorized to be run on the controlling apparatus to control the image forming apparatus, such as the copying/scanning machine 300 illustrated in Figure 1, for example.

According to the exemplary configuration in which the controlling apparatus (e.g., computer 200) is limited to controlling an image forming apparatus, the controlling apparatus is different from a general-purpose computing device in which a user may wish to add, modify or remove programs and files at will for various purposes. On the other hand, since the function of the controlling apparatus is limited to controlling the image forming apparatus, according to the exemplary configuration illustrated in Figure 1, the preset list of programs in the file list 241

represents a limited number of programs that are authorized to be run on the controlling apparatus to control the image forming apparatus.

Therefore, the claimed invention provides that programs that are authorized to be run to control the image forming apparatus are included in a preset list 241 of programs, and the preset list 241 is stored in the controlling apparatus (e.g., computer 200). This preset list 241 therefore contains programs that are known (i.e, approved) to control the image forming apparatus (e.g., copying machine 300). However, if a program is confirmed to be running on the controlling apparatus and that confirmed program is not included in the preset list 241 of programs, the confirmed program is judged to be an illegal program resulting from a computer virus infection. The disclosed embodiment provides that every program that is judged to be an illegal program is inhibited from being run on the controlling apparatus. Consequently, if a program whose running state has been confirmed is not included in the preset list of programs which are authorized to be run on the controlling apparatus, then that program is, without exception, inhibited from being run on the controlling apparatus.

When a computer virus infiltrates into a computer, the virus often creates a new program and/or file. In the case of a general-purpose computing device, the number of programs and files that can be run is not limited to a preset list, due to the desire to allow users to add new programs or files and modify or delete existing programs or files. For example, general purpose computing devices, including mobile computing devices such as those disclosed in Geiger, are configured to allow users to add software programs containing executable and non-executable files, and add new non-executable files, such as a word processing document, for example. Therefore, conventional virus detection systems seek to compare a file against files that are known to be created by known viruses.

On the other hand, since the preset list of programs in the file list 241 represents a limited number of programs that are authorized be run on the controlling apparatus to control the image forming apparatus, the detection of a program that is not included in the file list 241 is judged to be an illegal program resulting from a computer virus infection. This judgment can be carried out because

a limited number of programs that are authorized to be run on the controlling apparatus are stored in the preset list of programs.

These features of the claimed invention would be disadvantageous to the functions and purpose of a general-purpose computer. In particular, limiting a general-purpose computer to a preset list of programs would defeat the purpose of permitting a user to create, add and modify files and programs on the general-purpose computer. On the contrary, general-purpose computers are designed to allow dynamic modifications. Consequently, virus detection and prevention systems for general-purpose computers detect programs do not judge a file or program that is not included in a list of authorized programs or files to be an illegal program resulting from a computer virus, because such a system would severely limit the functionality of a general-purpose computer in allowing its user to create, add and/or modify existing files with the general-purpose computer.

Independent claims 1, 11 and 19 recite various features of the above-described exemplary embodiment.

For instance, claim 1 recites that (1) any program which is not included in the preset list of programs that are authorized to be run to control the image forming apparatus, is judged as an illegal program resulting from a computer virus infection, and (2) every program that is judged to be an illegal program is inhibited from being run on the controlling apparatus.

Claim 11 recites a controlling apparatus that comprises a processor configured to execute features corresponding to the above-described features (1) and (2) of claim 1. Claim 19 recites a method comprising steps corresponding to features (1) and (2) of claim 1.

The applied references, either individually or in combination, do not disclose or suggest features (1) and (2) of claims 1, 11 and 19.

With reference to Figure 1, Geiger discloses a system of pre-verification of executable applications in a mobile communications device 10, e.g., a smart phone. The communications device 10 has a microprocessor 12, a program memory 13, and a subscriber identity module (SIM) 15 (page 3, lines 13-19). The SIM 15 contains a list 33 of authorized programs (page 4, lines 2-3). The list 33 of authorized programs is generated and loaded into the SIM 15 when the mobile

subscriber is issued the SIM 15 for use with the communications device 10 (see page 4, lines 18-19).

Geiger discloses that in order to run an application, a check is made against the list 33 to verify whether the application is authorized to be run (see page 4, lines 10-12). Based on this disclosure, the Office alleged that Geiger corresponds to the features of the claimed invention. However, any similarity between Geiger and the claimed invention ceases at this point in the disclosure of Geiger.

Geiger discloses that new applications 40 can be downloaded from a base station 40, stored in the program memory 13 and executed by the microprocessor 12 (see, e.g., page 4, lines 12-13, and page 5, lines 21-22). Accordingly, Geiger discloses that the communications device 10 is a general-purpose computer in which the subscriber can add new applications 40 after the subscriber obtains the communications device 10 and SIM 15, similar to the manner in which a user of a general-purpose computer can add and/or modify applications on the general-purpose computer.

Geiger is directed to shortcutting the verification process for applications which have been approved and thus appear in the list 33 of authorized applications, and new programs 40 which are subsequently verified, so that the authenticity of the applications do not have to be verified each time the application is executed. Geiger discloses that a hash code (fingerprint) is stored in the SIM 15 for each application 30 that is identified in the list 33 of authorized applications at the time the SIM 15 is issued to the subscriber. In other words, a fingerprint is stored in the SIM 15 for each application that is preloaded into the SIM 15 and identified in the list 33 of authorized applications (see page 4, line 19 to page 5, line 12, and Figure 2).

Geiger discloses that each time a new application 40 is launched and/or downloaded, the process of Figure 3 is completed. In Figure 3, a hash code is created for the new application, and the new application 40 is checked against the list 33 of authorized applications by comparing the generated hash code with the hash codes stored in the authorized list 33 stored in the SIM 15. If the new application 40 is contained in the list of authorized applications, then execution of the new application 40 is permitted. On the other hand, if the new application 40 is not contained in the list 33, then a full verification process is performed in which a digital

signature of the application is verified. If the digital certificate of the new application 40 is verified, then the new application 40 is executed. Conversely, if the digital certificate of the new application 40 is not verified, then the new application 40 is not launched (see page 5, line 19 to page 6, line 20, and Figure 3).

Accordingly, Geiger discloses a two-stage verification technique in which an application which is desired to be launched is first compared against a list 33 of authorized programs. If the application 33 is contained in the list 33, then it is permitted to be executed. However, even if the application is not contained in the list 33, the application is still permitted to be executed if a subsequent "full verification" is successful.

Therefore, contrary to the claimed invention, even if an application is not contained in the list 33 of authorized applications, that application is still permitted to be executed if a "full verification" of the application is successful. Accordingly, Geiger expressly discloses that there is an exception to authorizing an application if the application is not contained in the list 33 of authorized applications. In particular, the exception to the list 33 is that if the "full verification" (digital signature) of the application is successful, then that application is permitted to be executed even though the application is not contained in the list 33 of authorized applications.

In contrast to Geiger, claims 1, 11 and 19 recite that (1) any program which is not included in the preset list of programs that are authorized to be run to control the image forming apparatus, is judged as an illegal program resulting from a computer virus infection, and (2) every program that is judged to be an illegal program is inhibited from being run on the controlling apparatus. Accordingly, in contrast to Geiger which permits an exception, claims 1, 11 and 19 recite that every program that is judged to be an illegal program is inhibited from being run. Thus, claims 1, 11 and 19 are markedly different from Geiger since Geiger expressly discloses an exception to the list 33 of authorized applications.

Accordingly, Geiger does not disclose or suggest features (1) and (2) of claims 1, 11 and 19.

Radatti discloses a technique of detecting computer viruses by comparing hash values created for known viruses to a list of viruses, and/or by detecting files which are present but which were not present prior to the virus check. However,

similar to Geiger, Radatti also does not disclose or suggest features (1) and (2) of claims 1, 11 and 19.

Motoyama also does not disclose, suggest or contemplate features (1) and (2) of claims 1, 11 and 19.

Accordingly, for at least the foregoing reasons, Applicant respectfully submits that claims 1, 11 and 19 are patentable over Geiger, Radatti and Motoyama, since these references, either individually or in combination, fail to disclose or suggest features (1) and (2) of claims 1, 11 and 19.

In addition to failing to disclose or suggest all the recited features of claims 1, 11 and 19, Applicant respectfully submits that it would not have been obvious to modify Geiger in the manner proposed by the Office in an attempt to arrive at the claimed invention. The two-stage verification process of Geiger attempts to shorten the verification time for newly added applications 40. The verification process of Geiger is rendered meaningless if only preloaded authorized applications contained in the list 33 are permitted to be executed on the communications device 10, because the communications device 10 is configured to permit a subscriber to download new programs 4. The verification process of Geiger seeks to ensure that any new program 40 is downloaded from an authorized source. Therefore, modifying Geiger so that its applications are restricted to a limited purpose is contrary to the disclosure, purpose and objective of Geiger.

Accordingly, in addition to failing to disclose or suggest all the recited features of claims 1, 11 and 19, Applicant respectfully submits that it would not have been obvious to modify Geiger, Radatti and Motoyama in the manner proposed by the Office in an attempt to arrive at the claimed invention.

Therefore, Applicant respectfully submits that claims 1, 11 and 19 are patentable over Geiger, Radatti and Motoyama.

B. Dependent claims 4, 14 and 26 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Geiger in view of Radatti and Motoyama and further in view of Cozza (U.S. 5,649,095).

As discussed above, Geiger, Radatti and Motoyama each fail to disclose or suggest features (1) and (2) of claims 1, 11 and 19. Similarly, Cozza also fails to disclose or suggest features (1) and (2) of claims 1, 11 and 19.

Consequently, Cozza cannot cure the deficiencies of Geiger, Radatti and Motoyama for failing to disclose or suggest all the recited features of claims 1, 11 and 19.

Accordingly, for at least the foregoing reasons, Applicant respectfully submits that claims 1, 11 and 19, as well as the claims depending therefrom, are patentable over Geiger, Radatti, Motoyama and Cozza, since these references, either individually or in combination, do not disclose or suggest all the recited features of the claimed invention.

Dependent claims 2-4, 12-14 and 24-26 recite further distinguishing features over the applied references, and are also patentable by virtue of depending from claims 1, 11 and 19. The foregoing explanation of the patentability of claims 1, 11 and 19 is sufficiently clear such that it is believed to be unnecessary to separately demonstrate the additional patentable features of the dependent claims at this time. However, Applicant reserves the right to do so should it become appropriate.

III. Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. Accordingly, a favorable examination and consideration of the instant application are respectfully requested.

If, after reviewing this Amendment, the Examiner believes there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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Date: November 8, 2010

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